

ENGINEERING SPECIFICATION
STATE OF INDIANA
DEPARTMENT OF CORRECTION
PEN PRODUCTS

Attachment A

I. OBJECTIVE:

To provide a foam core material for the manufacturing of Healthcare mattresses used in correctional and detention facilities, that meets flammable and smoke standards per State, and Federal Regulations, and UL standards.

II. REQUIREMENTS:

A. Material:	Polychloroprene latex and Polyurethane core as a multi foam composite with breathable open cells. Top & Bottom is $1\frac{1}{8}'' \pm 1/8$ special (Hi-Density soft) convoluted with flat peaks, and Sides & ends $1/2''$ (medium)
B. Safety Properties	Must be low smoke and flame resistant which shall last thru out service life. Spray on additives are not acceptable.
C. Compatibility	Must be compatible with covering material: 01464-001 Vinyl Ticking, Blue, 5 ½ oz. (Brand name Chemflex II)
D. Color	Per each manufacturers Standard Practice.
E. Physical Size	In sizes measured in board footage in general dimensions. Width x Length x Thickness in box like shape per method of specifying. (Note: Variations of different sizes will occur per customer demand.)
F. Flammability	By Manufacturer Certification through Independent Laboratory by random sample with results submitted for Approval. State may recheck as needed.
1. ASTM E162-94 Radiant Panel	Maximum flame
2. ASTM D3675-95	Index - 5 (without specimen showing signs of melting or dripping.)

DESCRIPTION
FOAM, COMPOSITE,
HIGH DENSITY

DOCUMENT #03748-000

PAGE 1 OF 3

CONTINUED

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|--|--|
| 3. ASTM E662-92
NBS Smoke Chamber | Flaming and Non-Flaming modes
DS 90 sec 100 Maximum
DS 4 min 175 Maximum
DM 200 Maximum |
| 4. ASTM E906-83 Rate of Heat Release | (method A or B) |
| Radiant Flux 3.5 W/cm Sq. | 50 KW/m Sq maximum |
| Vertical Mode | Heat Release at 3 min. |
| Ignition - 2 pilots | 5.0 MJ/m sq. maximum |
| 5. ASTM E1354-94 | Heat Release Rate |
| Radiant Flux 3.5 W/cm Sq. | 50 KW/m Sq maximum
50 MJ/m sq. maximum |
| Horizontal Mode | Heat Release at 3 min.
50 KW/m Sq maximum |
| 6. ASTM D 2863-91
(Paragraph 9)
Oxygen Index | 50 minimum |
| 7. California Tests | |
| California 117 | Pass |
| California 121 | Pass |
| California 129 | Pass |
| California 133 | Pass |
| 8. Other Fire Properties | |
| A. UL-1895 Standard for fire test of mattress | |
| B. Ignition Resistance Federal Regulation Title 16 FF-4-72 part 1632 flammability of mattresses. | |

F. Physical Properties

- | | |
|--|------------------------|
| 1. Density: Test A | 5.0 To 7 lbs maximum |
| Indentation Force Test B1 | Medium 35 ± 10 |
| Deflection | 25 % Maximum |
| Compression Set Test D
50% constant deflection percent
of original thickness | 15% ± 5% |
| Tensile Test E | 8lbs / sq inch minimum |

DESCRIPTION
FOAM, COMPOSITE,
HIGH DENSITY

DOCUMENT #03748-000
PAGE 2 OF 3

CONTINUED

Elongation Test E	150% minimum
Dynamic Fatigue Test B Constant Force Pounding	75,000 Cycles \pm 5,000 40% I.F.D. Loss
Thickness Loss	5 % Maximum
Resiliency Test H	30% Minimum
Tear Strength Test F	2.0 lbs/inch Minimum
2. ASTM G-21 & G-22	
Fungal and Bacterial Growth	No Growth
III. PROCUREMENT:	
A. Packaging/Shipping Per purchase order	
B. Reference	Chestnut Ridge Foam Inc. Texas State specification (565-15-02), Tennessee Procedures (29.8), Florida Specification (No. 850-500-80)
C. Method of Specifying	03748-001 35 x 75 x 5 03748-002 35 x 77 x 5 03748-003 35 x 80 x 5

DESCRIPTION

FOAM, COMPOSITE,
HIGH DENSITY

DOCUMENT #03748-000

PAGE 3 OF 3

**ENGINEERING SPECIFICATION
STATE OF INDIANA
DEPARTMENT OF CORRECTION
PEN PRODUCTS**

I. OBJECTIVE:

To provide a foam core material for the manufacturing of Healthcare mattresses used in correctional and detention facilities, that meets flammable and smoke standards per State, and Federal Regulations, and UL standards.

II. REQUIREMENTS:

- | | |
|--------------------------------------|--|
| A. Material: | Polychloroprene latex and Polyurethane core as a multi foam composite with breathable open cells. Top & Bottom is 1 1/8" ± 1/8 special (Hi-Density soft) convoluted with flat peaks, and Sides & ends 1/2"(medium) |
| B. Safety Properties | Must be low smoke and flame resistant which shall last thru out service life. Spray on additives are not acceptable. |
| C. Compatibility | Must be compatible with covering material:
01464-001 Vinyl Ticking, Blue, 5 1/2 oz.
(Brand name Chemflex II) |
| D. Color | Per each manufacturers Standard Practice. |
| E. Physical Size | In sizes measured in board footage in general dimensions. Width x Length x Thickness in box like shape per method of specifying.
(Note: Variations of different sizes will occur per customer demand.) |
| F. Flammability | By Manufacturer Certification through Independent Laboratory by random sample with results submitted for Approval. State may recheck as needed. |
| 1. ASTM E162-94
Radiant Panel | Maximum flame |
| 2. ASTM D3675-95 | Index - 5 (without specimen showing signs of melting or dripping.) |
| 3. ASTM E662-92
NBS Smoke Chamber | Flaming and Non-Flaming modes
DS 90 sec 100 Maximum
DS 4 min 175 Maximum
DM 200 Maximum |

CONTINUED

4. ASTM E906-83 Rate of Heat Release	(method A or B)
Radiant Flux 3.5 W/cm Sq.	50 KW/m Sq maximum
Vertical Mode	Heat Release at 3 min.
Ignition – 2 pilots	5.0 MJ/m sq. maximum
5. ASTM E1354-94	Heat Release Rate
Radiant Flux 3.5 W/cm Sq.	50 KW/m Sq maximum 5.0 MJ/m sq. maximum
Horizontal Mode	Heat Release at 3 min. 50 KW/m Sq maximum
6. ASTM D 2863-91 (Paragraph 9) Oxygen Index	50 minimum
7. California Tests	
California 117	Pass
California 121	Pass
California 129	Pass
California 133	Pass
8. Other Fire Properties	
A. UI-1895 Standard for fire test of mattress	
B. Ignition Resistance Federal Regulation Title 16 FF-4-72 part 1632 flammability of mattresses.	
F. Physical Properties	
1. Density: Test A	5.0 To 7 lbs maximum
Indentation Force Test B1	Medium 35 ± 10
Deflection	25 % Maximum
Compression Set Test D 50% constant deflection percent of original thickness	12% maximum
Tensile Test E	8lbs / sq inch minimum
Elongation Test E	150% minimum

DESCRIPTION
FOAM, HIGH DENSITY

DOCUMENT #03870-000
PAGE 2 OF 3

CONTINUED

Dynamic Fatigue Test B	75,000 Cycles \pm 5,000
Constant Force Pounding	40% I.F.D. Loss
Thickness Loss	5 % Maximum
Resiliency Test H	30% Minimum
Tear Strength Test F	2.0 lbs/inch Minimum

2. ASTM G-21 & G-22

Fungal and Bacterial Growth	No Growth
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III. PROCUREMENT:

A. Packaging/Shipping
Per purchase order

B. Reference

Chestnut Ridge Foam Inc.
Texas State specification (565-15-02),
Tennessee Procedures (29.8),
Florida Specification (No. 850-500-80)

C. Method of Specifying

03870-001 25 x 72 x 4
03871-001 24 x 73 x 4
03872-001 35 x 74 x 4
03873-001 35 x 74 x 4
03874-001 35 x 72 x 4
03875-001 27 x 77 x 3
03876-001 35 x 80 x 4
03937-001 28 x 77 x 4
03938-001 35 x 78 x 3
03939-001 35 x 78 x 4
03943-001 26 x 78 x 3
03952-077 28 x 77 x 3
03958-001 25 x 72 x 3
03962-001 35 x 74 x 3

DESCRIPTION

DOCUMENT #03870-000

FOAM, HIGH DENSITY

PAGE 3 OF 3

**ENGINEERING SPECIFICATION
STATE OF INDIANA
DEPARTMENT OF CORRECTION
PEN PRODUCTS**

I. OBJECTIVE:

To provide a shredded foam material for the manufacturing of pillows used in correctional and detention facilities, that meets flammable and smoke standards per State, and Federal Regulations, and UL standards.

II. REQUIREMENTS:

- | | |
|--------------------------------------|---|
| A. Material: | Polychloroprene latex foam with breathable open cells. |
| B. Safety Properties | Must be low smoke and flame resistant which shall last thru out service life. Spray on additives are not acceptable. |
| C. Compatibility | Must be compatible with covering material:
03859-001 Nylon pillow ticking, Blue. 58
(Brand name Chemsafe NPT) |
| D. Color | Per each manufacturers Standard Practice. |
| E. Physical Size | Shredded sizes 3/8 " + 1 /4 - 1 /8 |
| F. Flammability | By Manufacturer Certification through Independent Laboratory by random sample with results submitted for Approval. State may recheck as needed. |
| 1. ASTM E162-94
Radiant Panel | Maximum flame |
| 2. ASTM D3675-95 | Index - 5 (without specimen showing signs of melting or dripping.) |
| 3. ASTM E662-92
NBS Smoke Chamber | Flaming and Non-Flaming modes
DS 90 sec 100 Maximum
DS 4 min 175 Maximum
DM 200 Maximum |
| 4. ASTM E906-83 Rate of Heat Release | (method A or B) |
| Radiant Flux 3.5 W/cm Sq. | 50 KW/m Sq maximum |
| Vertical Mode | Heat Release at 3 min. |
| Ignition - 2 pilots | 5.0 MJ/m sq. maximum |

CONTINUED

5. ASTM E1354-94

Heat Release Rate

Radiant Flux 3.5 W/cm Sq.

50 KW/m Sq maximum
5.0 MJ/m sq. maximum

Horizontal Mode

Heat Release at 3 min.
50 KW/m Sq maximum

6. ASTM D 2863-91

(Paragraph 9)

Oxygen Index

50 minimum

7. California Tests

California 117

Pass

California 121

Pass

California 129

Pass

California 133

Pass

8. Other Fire Properties

A. UI-1895 Standard for fire test of mattress

B. Ignition Resistance Federal Regulation Title 16 FF-4-72 part 1632 flammability of mattresses.

G. Physical Properties

1. Density: Test A

5.0 To 7 lbs maximum

Indentation Force Test B1

Medium 35 \pm 10

Deflection

25 % Maximum

Compression Set Test D
50% constant deflection percent
of original thickness

15% \pm 5%

Tensile Test E

8lbs / sq inch minimum

Elongation Test E

150% minimum

Dynamic Fatigue Test B
Constant Force Pounding

75,000 Cycles \pm 5,000
40% I.F.D. Loss

Thickness Loss

5 % Maximum

Resiliency Test H

30% Minimum

Tear Strength Test F

2.0 lbs/inch Minimum

DESCRIPTION
SHREDDED, FOAM HIGH DENSITY

DOCUMENT # 039560-000
PAGE 2 OF 3

CONTINUED

2. ASTM G-21 & G-22

Fungal and Bacterial Growth

No Growth

III. PROCUREMENT:

A. Packaging/Shipping
Per purchase order

B. Reference

Chestnut Ridge Foam Inc.
Texas State specification (565-15-02),
Tennessee Procedures (29.8),
Florida Specification (No. 850-500-80

C. Method of Specifying

03956-001

DESCRIPTION
SHREDDED, FOAM HIGH DENSITY

DOCUMENT # 039560-000
PAGE 3 OF 3

**ENGINEERING SPECIFICATION
STATE OF INDIANA
DEPARTMENT OF CORRECTION
PEN PRODUCTS**

- I. **OBJECTIVE:**
To provide a Densified Polyester batting to be used in the manufacturing of bedding products.
- II. **REQUIREMENTS:**
- A. Type Batting
 - B. Material 100% Densified Polyester
 - C. Color Per each manufacturers standard practice.
 - D. Thickness 5 inches
 - E. Weight (oz/sq ft) 10 minimum
 - F. Width See Method of Specifying
 - G. Length See Method of Specifying
 - H. Surface
 - 1. Odor-Free
 - 2. Non-Toxic
 - 3. Hypo-Allergenic
 - 4. Mildew Resistant
 - I. Flammability By manufacturer certification through independent laboratory by random sample with results submitted for Approval.
 - 1. California TB117
 - 2. California TB121
 - 3. California TB129
 - 4. CFR 1632

**BATTING, 100% DENSIFIED POLYESTER,
FLAME MOISTURE MILDEW RESISTANT,
HYPO ALLERGENIC, ODOR FREE,
MINIMUM 10 OZ/SQ FT**

DOCUMENT # 03052-000

PAGE 1 OF 2

CONTINUED

III. PROCUREMENT:

A. Packaging/Shipping
Per Purchase Order

B. Reference

Leggett & Platt Inc.

C. Method of Specifying

03052-073	24X73X5
03052-172	25X72X5
03052-278	26X78X5
03052-377	27X77X5
03052-477	28X77X5
03052-972	35X72X5
03052-974	35X74X5
03052-978	35X78X5
03052-980	35X80X5

DESCRIPTION

BATTING, 100% DENSIFIED POLYESTER,
FLAME MOISTURE MILDEW RESISTANT,
HYPO ALLERGENIC, ODOR FREE,
MINIMUM 10 OZ/SQ FT

DOCUMENT # 03052-000

PAGE 2 OF 2